

### REMARKS

Claims 1-4, 6-29 and 32-52 are pending in the current application, and claims 29 and 32-52 stand withdrawn from consideration. Claims 1-4 and 6-28 stand rejected, and claims 1-4 and 6-28 stand objected-to. Claims 2, 3, 6, 7, 14, 20, 22, 25 and 28 have been amended. Applicant has amended several of the claims as follows:

Claims 2, 3, 6, 7 have been amended to recite "comprises" or "comprising" rather than "further includes" or "further including" in response the Examiner's request.

Claim 3 has been amended to depend from claim 2; Claim 7 has been amended to depend from claim 3; and Claim 20 has been amended to depend from claim 7, in order to provide antecedent basis for certain claim features as requested by the Examiner.

The amendments to claims 14 and 25 are merely to correct typographical errors. Claim 14 has been amended to remove the recitation of "claim 1," and Claim 25 has been amended to delete the word "any."

Claims 6, 7 and 22 have been amended to provide for greater consistency between claims as requested by the Examiner. Claims 6 and 7 have been amended to recite a "hot air heater" rather than "heating means." Claim 22 has been amended to recite a "dispensing means comprises" rather than "means for dispensing the solution includes."

In view of the amendment and remarks submitted herewith, favorable reconsideration and allowance of this application are respectfully requested.

### ABSTRACT

Applicant notes that the Examiner has requested an abstract on a separate sheet stating that "[t]his application does not contain an abstract of the disclosure as required by 37 C.F.R. 1.72(b)." OA page 2. Since this is a National Stage application the cited requirement under 1.72(b) does not apply. See M.P.E.P. § 1893.03(e)(I): "The requirement of 37 CFR 1.52(b) that the abstract 'commence on a separate physical sheet or electronic page' does not apply to the copy of the published international application communicated to the designated Offices by the International Bureau under PCT Article 20. Accordingly, it is improper for the examiner of the U.S. national stage application to require the applicant to provide an abstract commencing on a separate sheet if the abstract does not appear on a separate sheet in the publication of the international application." (emphasis added). Applicant respectfully requests that the Examiner withdraw the improper request for an abstract on a separate sheet.

### **PRIORITY**

The Examiner states that “applicant has not filed a certified copy of the British application as required by 35 U.S.C. 119(b).” Under M.P.E.P. § 1893.03(c)(II), “[t]he requirement in PCT Rule 17 for a certified copy of the foreign priority application is normally fulfilled by applicant providing a certified copy to the receiving Office or to **the International Bureau** or by applicant requesting the receiving Office to prepare and transmit the priority document to the International Bureau if the receiving Office issued the priority document.” (emphasis added). Attached hereto is the Notification from the International Bureau confirming receipt of the priority document, dated February 25, 2005, which satisfies the statutory requirement. Additionally, the Notification of Missing Requirements Under 36 U.S.C. 371, mailed May 9, 2008, clearly indicates that the priority document was received by the USPTO. Applicant therefore respectfully submits that a certified copy of the British application is not presently necessary to satisfy 35 U.S.C. § 119(b) and respectfully requests the Examiner withdraw the request.

### **SPECIFICATION OBJECTION**

The Examiner has objected to the specification stating that “[t]he disclosure is objected to because the continuing data regarding the 371 is missing from the specification.” OA page 2. Applicant respectfully disagrees with the Examiner’s objection. No priority claim is needed in the specification because the present application is the U.S National phase application of International Application No. PCT/GB2005/000008, filed January 6, 2005. Indeed, under PCT Article 11(3), “an international filing date shall have the effect of a regular national application in each designated State as of the international filing date, which date shall be considered to be the actual filing date in each designated State.” M.P.E.P. § 1893(b). Thus, if the National Stage application shares the same filing date as the corresponding International Application, the provision of “continuing data regarding the 371” in the instant specification would be redundant. Therefore, Applicant respectfully requests that the Examiner withdraw the objection to specification.

**REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

The Examiner has rejected claims 1-4 and 6-28 under 35 U.S.C. § 112, second paragraph, for allegedly "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." OA page 2.

The Examiner asserted six grounds of rejection under 35 U.S.C. § 112, second paragraph:

- a. "Claim 11 is already recited in claim 1, claimed [twice]?" *Id.*
- b. "Claim 27 is at odds with the claim from which it depends, i.e., claim 1." *Id.*
- c. "Claim 28, as recited, is in improper Markush language." OA page 3.
- d. "Claim 28 is an improper dependent claim for failing to further limit the subject matter of claim 1." *Id.*
- e. "The claimed [i.e., claim 1] 'a hot air heater arranged to direct hot air flow onto the receptacle' is not understood." *Id.*
- f. "The claimed 'about a substantially vertical rotation axis' in claim 1 is a relative term which renders the claim indefinite." *Id.*

**Rejection (a):**

The apparatus of claim 1 is "[a]n apparatus for concentrating solutions in a vaporising receptacle..." but does not necessarily comprise "a vaporising receptacle." (emphasis added). Claim 11 recites, "[a]n apparatus according to claim 1 further comprising a vaporising receptacle." By the language of claim 1, even though the apparatus concentrates solutions in a vaporising receptacle, it does not comprise the vaporising receptacle which is not a positively claimed element. Indeed, "[w]hile it is appropriate to use the specification to determine what the applicant intends a term to mean, a positive limitation from the specification cannot be read into a claim that does not itself impose that limitation." M.P.E.P. § 2106(II)(C). Claim 1 does not positively recite a "vaporising receptacle" but, claim 11 provides the additional feature of "a vaporising receptacle." As an example, Claim 1 would be analogous to a claim for a coffee maker which does not expressly recite a coffee pot. Thus, the subject matter of claim 11 is not recited in claim 1 and there is no claiming of duplicative subject matter. Accordingly, Applicant respectfully requests that the rejection of claim 11 for indefiniteness be withdrawn.

Rejection (b):

Specifically, the Examiner states that:

“Claim 27 is at odds with the claim from which it depends, i.e., claim 1. Claim 27 recites ‘An apparatus for producing concentrated solutions or dry solvate’, whereas claim 1 recites ‘An apparatus for concentrating solutions in a vaporizing receptacle’ which is inconsistent therewith. Also, ‘the mouth of the receptacle facing upwards’ in claim [1] [the language referred to by the Examiner is located in claim 1 and not claim 25] appears to be at odds with claim 1 recitation of...[the]... ‘about a substantially vertical rotation axis’. A dependent claim incorporates every features of the claim from which it depends and cannot change nor orient the limitation(s) already recited in the independent claim. Moreover, claim 27 appears to be broadening the apparatus of claim 1 with the second apparatus.” OA pages 2-3.

Applicant respectfully disagrees with the Examiners assertion that “[c]laim 27 is at odds with the claim from which it depends, i.e., claim 1.”

First, the express language in the preamble of claim 27 is consistent with the preamble of claim 1. Claim 27 recites “[a]n apparatus for producing concentrated solutions or dry solvate including a first apparatus according to claim 1 and a second apparatus for performing a precursor process which supplies a solution to be concentrated to said first apparatus.” (emphasis added). Separating the two parts of the disjunctive preamble of claim 27, there is no question that “producing concentrated solutions” (claim 27) is consistent with “concentrating solutions” (claim 1).

Regarding the second half of the disjunctive preamble of claim 27, there is also no question that “producing...dry solvate” (claim 27) is consistent with “concentrating solutions” (claim 1). Indeed, as used at least on page 8, lines 33-34, of the specification, the relationship of concentrated to solutions and dry solvate is one of degree. An evaporator can remove some solvent from a solution to produce a concentrated solution. Alternatively, all of the solvent may be evaporated to yield a “dry solvate.” Therefore, since “concentrating solutions” (claim 1) is consistent with “producing...dry solvate” (claim 27), as a matter of degree, Applicant respectfully requests that the rejection of claim 27 for indefiniteness be withdrawn.

Second, the Examiner states that there is an inconsistency in claim 1 between the recitation of “the mouth of the receptacle facing upwards” and “about a substantially vertical rotation axis.” OA page 3. Although the Examiner attributes “the mouth of the receptacle

facing upwards” to claim 25, the only recitation of this text is located in claim 1. Therefore, Applicant proceeds under the assumption that the Examiner intended to reference claim 1. Contrary to the Examiner’s assertion, the recitations of “the mouth of the receptacle facing upwards” and “about a substantially vertical rotation axis,” are completely consistent and not at odds.

Figure 5 of the specification as filed provides a “detailed sectional view showing the location for the vaporising receptacle with respect to its axis of rotation.” Specification, page 14, lines 5-6. Figure 5 demonstrates a vaporising receptacle with a substantially vertical rotation axis 5. Specification, page 18, lines 15-17. Additionally, in Figure 5, the “mouth,” or “aperture,” 3 of the vaporising receptacle is “facing upwards” in relation to the axis of rotation 5. Therefore, since the specification demonstrates the features of “the mouth of the receptacle facing upwards” and “about a substantially vertical rotation axis” at least in Figure 5, such features are consistent and not at odds with each other.

Third, the Examiner states that, “claim 27 appears to be broadening the apparatus of claim with the second apparatus.” OA page 3. Applicant respectfully disagrees with the Examiner’s interpretation of claim 27. Under M.P.E.P. § 2173.05(f), “[a] claim which makes reference to a preceding claim to define a limitation is an acceptable claim construction which should not necessarily be rejected as improper or confusing under 35 U.S.C. 112, second paragraph. For example, claims which read: ‘The product produced by the method of claim 1.’ or ‘A method of producing ethanol comprising contacting amylose with the culture of claim 1 under the following conditions ...’ are not indefinite under 35 U.S.C. 112, second paragraph, merely because of the reference to another claim.” Indeed, the manner in which claim 27 “has been drafted has been an acceptable format for years... [and the] claim...could be construed as an independent claim, drafted in a short hand format to avoid rewriting the particulars of” claim 1. *Ex Parte Porter*, 25 USPQ2d 1144, 1147 (BPAI 1992). Moreover, the addition of features to a claim necessarily narrows to scope of a claim. Thus, the inclusion of the subject matter of claim 1 in claim 27 is in accordance with USPTO practice, and for at least this reason Applicant respectfully requests that the Examiner’s rejection be withdrawn.

Rejection (c):

In light of the Examiner's rejection of claim 28 for containing "improper Markush language," Applicant has amended claim 28. Accordingly, Applicant respectfully requests that this ground of rejection for indefiniteness be withdrawn.

Rejection (d):

The Examiner asserts that claim 28 "is an improper dependent claim for failing to further limit the subject matter of claim 1...[and] [t]he process recited in claim 28 does not add any further structural features to the apparatus of claim 1." Applicant has amended claim 28. Accordingly, Applicant respectfully requests that this ground of rejection be withdrawn.

Rejection (e):

The Examiner asserts that "a hot air heater arranged to direct hot air flow onto the receptacle" is not understood and "[a] heater is normally for heating purposes, not for directing flow as claimed?" OA page 3. Applicant respectfully disagrees with the Examiner's assertion which must be, under 35 U.S.C. § 112, second paragraph, that such a claim feature in claim 1 renders the claim indefinite.

The relevant inquiry in determining compliance with the definiteness requirement of 35 USC §112, second paragraph, is whether the claim in question sets out and circumscribes a particular area with a sufficient degree of precision and particularity, such that the metes and bounds of the claimed invention are reasonably clear. *In re Moore*, 169 USPQ 236 (CCPA 1971). The definiteness of claim language may not be analyzed in the abstract, but must be considered in light of the supporting specification, with the language in question being accorded the broadest reasonable interpretation consistent with its ordinary usage in the art. *In re Morris*, 44 USPQ2d 1023, 1027 (Fed. Cir.1997). See also *Ex parte Cole*, 223 USPQ 94 (Bd. Apps. 1983) (claims are addressed to the person of average skill in a particular art; compliance with §112 must be adjudged from that perspective, not in a vacuum). Moreover, the M.P.E.P. clearly states that an "applicant is entitled to be his or her own lexicographer and...[therefore] [w]here an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim." M.P.E.P. § 211.01(IV) (emphasis added).

In the present application, Applicant has defined "a hot air heater arranged to direct hot air flow onto the receptacle." As a general matter, a hot air heater can provide an air

flow. For example, an office space heater not only provides heating but air flow as well. Indeed, the specification provides, for example: “a hot air heater arranged to direct hot air flow onto the receptacle,” page 4, lines 1-2; “Sensor 114 is positioned to view an area of the vial close to the height at which the hot air heater 99 is applying heat to the surface of the vial,” page 28, lines 32-34 (emphasis added); and in Figure 7 which “shows an alternative apparatus and method for heating the contents of the vaporising receptacle 1, using a hot air heater 99...[wherein] [a] two stage axial fan 91 draws air at room temperature and forces the air past the resistive heating elements 94,” page 22, lines 18-24.

Thus, the specification provides support for a “hot air heater” which may be arranged to direct hot air flow onto the receptacle or the surface of the vial and is not merely limited to “heating purposes” as stated by the Examiner. Indeed, in light of the specification, such a claim feature of a “hot air heater arranged to direct hot air flow onto the receptacle” is supported by the specification and, moreover, explicitly recites a feature of the claimed invention as required by 35 U.S.C. § 112. Accordingly, since support is found in the specification, Applicant respectfully requests that this ground of rejection under 35 U.S.C. § 112, second paragraph, be withdrawn.

Rejection (f):

The Examiner asserts that the “claimed ‘about a substantially vertical rotation axis’ in claim 1 is a relative term which renders the claim indefinite...[and] [t]he above claimed language is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.” OA page 3. Applicant respectfully disagrees with the Examiner’s assertion that claim 1 is rendered indefinite due to the claim recitation of “about a substantially vertical rotation axis.”

At the outset, it appears that the Examiner may be misconstruing the recitation of “about a substantially vertical rotation axis.” For purposes of clarity in addressing the Examiner’s rejection, Applicant would like to first note that the claim feature at issue is a “rotation means being operable to rotate the vaporising receptacle thus supported at high speed about a substantially vertical rotation axis.” The term “about,” as used in the claim, does not modify the “substantially vertical rotation axis,” per se, but denotes the spatial relationship between the rotation of “the vaporising receptacle thus supported at high speed”

and the “substantially vertical rotation axis.” This is akin to the use of “about” in the phrase “the earth rotates about its axis.”

Under M.P.E.P. § 2173.05(b), “[t]he fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph.” Indeed, “[a]cceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.” *Id.* Specifically regarding the relative term “substantially,” the M.P.E.P. states that it is a “broad term” which may nevertheless be found definite in view of the specification. M.P.E.P. § 2173.05(b)(D); *see also In re Mattison*, 184 USPQ 484 (CCPA 1975) (The court held that the limitation “to substantially increase the efficiency of the compound as a copper extractant” was definite in view of the general guidelines contained in the specification), *and Andrew Corp. v. Gabriel Electronics*, 6 USPQ2d 2010 (Fed. Cir. 1988) (The court held that the limitation “which produces substantially equal E and H plane illumination patterns” was definite because one of ordinary skill in the art would know what was meant by “substantially equal”). Therefore, the feature of a “substantially vertical rotation axis” is valid when supported by the specification such that the one of ordinary skill in the art would know what was meant by “substantially vertical rotation axis.”

The specification as filed provides support for the recitation of a “substantially vertical rotation axis” such that one of ordinary skill in the art would know what was meant by “substantially vertical rotation axis.” In the abstract, “the axis of the receptacle is perpendicular to the mouth.” Indeed, the “rotational axis passes through the mouth of the receptacle.” Specification, page 5, lines 1-2. The “receptacle may be supported to rotate about an axis that is at an angle to the longitudinal axis of the vaporising receptacle itself.” *Id.*, page 10, lines 12-14 (emphasis added). Moreover, “Figure 5 shows an embodiment in which the vaporising receptacle is inclined with respect to the axis of rotation.” *Id.*, page 18, lines 14-15. As depicted in Figure 5, “the axis 5...is the axis of the cylindrical portion of the vaporising receptacle 1...[and] [t]he axis 73 rotates substantially concentrically relative to axis 72, with an angle 70 between axis 72 and axis 5.” *Id.*, page 18, lines 15-19 (emphasis added). The specification demonstrates that the receptacle has an axis of rotation which may be tilted at an angle from the longitudinal axis of the receptacle. Indeed, Figure 5 depicts such a tilt of the receptacle at an angle 70. Thus, the ordinary artisan would comprehend “Substantially vertical rotation axis,” in light of the specification to mean an axis that could be vertical, but could also be “substantially vertical” such that the receptacle is tilted at some



angle relative to the longitudinal axis of the receptacle and/or the axis 70 depicted in Figure 5. Therefore, the specification supports the recitation of a “substantially vertical rotation axis” and Applicant respectfully requests that such a claim feature be found definite.

Since the phrase “substantially vertical rotation axis” is supported by the specification, the phrase “about a substantially vertical rotation axis” is also supported such that the ordinary artisan would know what was meant. This is because the term “about,” as stated hereinabove merely denotes the spatial relationship between the rotation of “the vaporising receptacle thus supported at high speed” and the “substantially vertical rotation axis.” Accordingly, Applicant respectfully requests that the rejection of claim 1 as indefinite because of the recitation “about a substantially vertical rotation axis” be withdrawn.

In light of the foregoing, Applicant respectfully requests that the rejections of claims 1, 11, 27, and 28 as being indefinite under 35 U.S.C. § 112, second paragraph, be withdrawn. Since claims 2-4, 6-10 and 12-26 depend, either directly or indirectly, from claim 1 they include all the features of claim 1. Accordingly, Applicant respectfully requests that the 35 U.S.C. § 112 rejections to claims 2-4, 6-10 and 12-26 be withdrawn for at least the same reasons as claim 1.

### **CLAIM OBJECTIONS**

The Examiner has objected to claims 1-4 and 6-28 at page 4 of the Official Action. Applicant has amended claims 2, 3, 6, 7, 20, 22 and 28 to respond to paragraphs a.1, a.2, c.1, c.2, c.3 and c.4 to address the points raised by the Examiner.

However, the Examiner’s objection to claim 1 due to an alleged “typographical error such as vapour, recited e.g., in claim 1 which should be -vapor- as the latter is the term normally used in the U.S.” is contrary to USPTO practice and Applicant respectfully requests that the objection be withdrawn.

Indeed, under M.P.E.P. § 608.01, “[e]xaminers should not object to the specification and/or claims in patent applications merely because applicants are using British English spellings (e.g., colour) rather than American English spellings. It is not necessary to replace the British English spellings with the equivalent American English spellings in the U.S. patent applications. Note that 37 CFR 1.52(b)(1)(ii) only requires the application to be in the English language. There is no additional requirement that the English must be American

English.” (emphasis added). Therefore, since “vapour,” as used in claim 1, is merely a British English spelling it should not be found objectionable.

In light of the amendments to the claims, and foregoing remarks, Applicant respectfully requests that the objections to claims 1-4 and 6-28 be withdrawn.

### **REJECTIONS UNDER 35 U.S.C. § 103**

The Examiner has rejected claims “1-4 and 6-28 under 35 U.S.C. 103(a) as being unpatentable over GB 2 334 688 or Lucas (3,871,574) in view of Lautenschlinger (5,447,077) or Guy et al (5,084,133).” OA page 5. Specifically, the Examiner states that the:

“apparatus of [GB 2 334 688 or Lucas] differ from the claimed invention in that claim 1, for example, recites ‘a hot air heater arranged to direct hot air flow onto the receptacle’. However, either of Lautenschlinger or Guy teaches that said limitation is a known expediency in the art. See col. 2, lines 8-15 of Guy; and col. 9, lines 30-43 of Lautenschlinger. To incorporate the hot air heater of Lautenschlinger or Guy to the apparatus of GB 2 334 688 or Lucas, to arrive at the claimed invention, would have been obvious to one of ordinary skill in the art motivated by a reasonable expectation of success as defined at col. 3, lines 47-65 of the Lautenschlinger reference. Lautenschlinger further discloses at col. 10, lines 31-39, the sensing means to measure the temperature of the solution within the vaporizing receptacle, wherein said sensing means is a non-contact temperature sensor.” OA page 7.

Applicant respectfully disagrees with the Examiner’s assertion of obviousness. The Examiner’s rejection of claims 1-4 and 6-28 based on the combined disclosures of GB ‘688 or Lucas in view of Lautenschlager or Guy is plainly improper because: (A) the proposed combination of references fails to account for every feature of the rejected claims; and/or (B) even if the claim features were disclosed by the proposed reference combination, it would be impossible to combine the references and no rational basis or sufficient reason for the combination exists as required under M.P.E.P. § 2141(III). Accordingly, Applicant respectfully requests that the Examiner’s obviousness rejection under 35 U.S.C. § 103 be withdrawn.

**A. The combined disclosures of GB '688 or Lucas in view of Lautenschlager or Guy do not expressly or impliedly suggest every feature of the rejected claims.**

“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.”

M.P.E.P. § 706.02(j). Concerning the basic requirements of a *prima facie* case of obviousness, “[a]ll words in a claim must be considered in judging the patentability of that claim....” M.P.E.P. § 2143.03; *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970). Indeed, the BPAI explains that “the examiner must make a searching comparison of the claimed invention – *including all its limitations* – with the teaching of the prior art...[t]hus, obviousness requires a suggestion of all limitations in a claim.” *Ex parte Wada*, Appeal 2007-3733 (BPAI Jan. 14, 2008).

Specifically, the Examiner has failed to demonstrate: 1) that either GB '688 or Lucas expressly or impliedly suggest the claim 1 feature of a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure” and 2) that either Lautenschlager or Guy expressly or impliedly suggest the claim 1 feature of “a hot air heater arranged to direct hot air flow onto the receptacle.”

1. The disclosures of GB '688 and/or Lucas fail to expressly or impliedly suggest the claim 1 feature of a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure.”

Claim 1 recites the feature of a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure” – the Examiner has failed to demonstrate that either GB '688 or Lucas disclose such a feature. As an initial point, Applicant would like to note that nowhere in the Official Action does the Examiner assert that GB '688 contains the feature of a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure.”

Though the Examiner does note, in GB '688, a window is sealed into the wall of the vacuum chamber, window is not receptacle. Indeed, the Examiner makes no mention of where “means for sealing the vaporising receptacle to the apparatus to maintain reduced

pressure” can be found in GB ‘688. Regarding the disclosure of GB ‘688, in the apparatus therein, vacuum is applied to an “evaporator chamber (14)” via a pipe which is connected to a vapour condenser and a vacuum pump (9 and 10 respectively) as set out at page 13, first full paragraph. As shown in Figure 1 of GB ‘688, the “sample blocks” are rotated within the vacuum chamber 14. Accordingly, the sample blocks of GB ‘688 are not, in themselves, sealed to the apparatus in order to maintain a reduced pressure inside them, but are instead placed inside a larger vacuum chamber which creates and maintains that reduced pressure. The only seal explicitly disclosed in GB ‘688 is that of the “window of heat-transparent material” which is stated to be “sealed to the wall of that vacuum chamber” (page 13, second paragraph). Therefore, “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure,” such a feature is absent from the disclosure of GB ‘688.

At least in regards to GB ‘688, the Examiner has failed to establish that every feature, (not only “a hot air heater arranged to direct hot air flow onto the receptacle,” which is acknowledged to be missing) is disclosed by GB ‘688. Accordingly, the combination of GB ‘688 and either Lautenschlager or Guy fails on its face to render at least claim 1 *prima facie* obvious for failing to expressly or impliedly suggest the all the features of claim 1.

Regarding Lucas, the Examiner asserts that:

“Lucas discloses an evaporator for concentrating thermo-labile fluids, said evaporator comprising: a standard bottle used as a vaporising receptacle and is vertically rotated at high speed, with a mouth facing upwardly, which is supported by suitable rotary supporting means; a vacuum pump to reduce the pressure within the standard bottle; and a vacuum chamber 10 in which the bottle containing the sample is placed. **Said vacuum chamber is the means for sealing the bottle for maintaining the reduced pressure within...**it as called for in present claim 1.” OA page 6 (emphasis added).

Referring to Lucas, as shown in Figure 1 and described in column 2, the “container,” which the Examiner has equated to the “receptacle” of present claim 1 is contained within a “hermetically-sealable vacuum chamber” made up from the base section 10b and the cover section 10a. Accordingly, the container of Lucas is not, in itself, sealed to the apparatus in order to maintain the reduced pressure. The only seal disclosed in Lucas is that of the vacuum chamber itself. In contrast, claim 1 recites a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure.”

The Examiner apparently has attempted to extract the gist of the claim feature in order to locate a comparable feature in Lucas. Indeed, the Examiner asserts that “said

vacuum chamber is the means for sealing the bottle for maintaining the reduced pressure within” when the claim actually recites a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure.” The Examiner has completely omitted an element of the claim feature which is absent from Lucas. Under M.P.E.P. § 2141.02(II), “[d]istilling an invention down to the ‘gist’ or ‘thrust’ of an invention disregards the requirement of analyzing the subject matter ‘as a whole.’” *See also W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (restricting consideration of the claims to a 10% per second rate of stretching of unsintered PTFE and disregarding other limitations resulted in treating claims as though they read differently than allowed). Therefore, since the Examiner has failed to demonstrate the presence of the aforementioned claim feature in at least claim 1, Lucas also fails to support the obviousness rejection.

In conclusion, both GB ‘688 and Lucas relate to apparatuses in which the container or receptacle is contained within a sealed vacuum chamber which completely surrounds the container. Accordingly, the containers in both GB ‘688 or Lucas are not, in themselves, sealed to the apparatus in order to maintain a reduced pressure inside the receptacle, but are instead placed inside a larger vacuum chamber to maintain their reduced pressure. The only sealing disclosed is that of the vacuum chamber itself. Moreover, neither Lautenschlager nor Guy provide all the features which are absent from GB ‘688 and Lucas. Therefore, since the references fail to expressly or impliedly suggest the claim feature of a “means for sealing the vaporising receptacle to the apparatus to maintain the reduced pressure,” Applicant respectfully requests that the Examiner’s *prima facie* case of obviousness based on either GB ‘688 or Lucas be withdrawn.

2. The disclosures of Lautenschlager and/or Guy fail to expressly or impliedly suggest the claim 1 feature of “a hot air heater arranged to direct hot air flow onto the receptacle.”

As stated above, the Examiner posits that “either of Lautenschlinger or Guy teaches that [‘a hot air heater arranged to direct hot air flow onto the receptacle’] is a known expediency in the art.” OA page 7. To support this position, the Examiner cites to Col. 2, lines 8-15 of Guy and Col. 9, lines 30-43 of Lautenschlager. Applicant contends that,

contrary to the Examiner's assertion, neither Lautenschlager nor Guy expressly or impliedly suggest the claim 1 feature of "a hot air heater arranged to direct hot air flow onto the receptacle."

Guy, at Col. 2, lines 8-24, states:

"The gas such as air admitted into the enclosure according to the process of the invention may, if desired, be brought to a sufficiently high temperature before it is introduced into the enclosure.

However, it is preferred to heat the gas inside the enclosure preferably by means of a source of heat inside the enclosure. Furthermore, the radiation of said source also supplies heat to the specimens.

It will be understood that, by means of the invention, there is achieved a true sweeping over the rotor and in particular the specimens by the gas temporarily and periodically admitted into the enclosure. It then possible for the gas to communicate heat, by conduction and convection, to the specimens and thereby accelerate the evaporation and reduce the total duration of the concentration cycle." (emphasis added).

As provided by the cited disclosure, Guy provides for an enclosure wherein a gas "is introduced into the enclosure." The gas may be heated prior to introduction but is preferably heated by a "source of heat inside the enclosure." In Figure 1, Guy demonstrates a:

"[v]alve system 32 [which] leads, through one of the ways to the vacuum pump 33..., and through another way 34 to the air of the atmosphere. When the way 34 is open, it enables the interior of the vessel to be put at atmospheric pressure by means of the orifice or nozzle 35 through which the tubular pivot opens into the vessel." Col. 5, lines 43-50. (emphasis added).

"The air which enters the enclosure axially issues therefrom through the nozzle 35 and is preferably projected toward the resistor 38 where it is rapidly heated and from there distributed in an angularly uniform manner throughout the enclosure where it heats by conduction the specimens in their test tubes 24, 25." Col. 7, lines 9-15. (emphasis added).

Guy creates a heated environment of gas but does not provide "a hot air heater arranged to direct hot air flow onto the receptacle." Indeed, the axially introduced air is required to strike the resistor 38 in order for it to be heated. Therefore, contrary to the Examiner's

assertion, Guy does not expressly or impliedly teach or suggest the claim 1 feature of "a hot air heater arranged to direct hot air flow onto the receptacle."

Like Guy, Lautenschlager also fails to expressly or impliedly teach or suggest the feature of "a hot air heater arranged to direct hot air flow onto the receptacle."

Lautenschlager, at Col. 9, lines 30-43, states:

*"Extraction of the vapour may be improved by admitting air or a gas into the heating chamber 3, thereby achieving an air or gas flow during extraction. This may be achieved through an aeration opening shown in FIG. 1 preferably by an aeration valve 40 which is disposed in a channel 40a in the housing 13, connects the heating chamber 3 to the environment, is preferably accessible from outside and is to be selectively opened and closed and is preferably adjustable. Owing to the gas or air stream which develops during extraction, the vaporous constituents may be extracted more efficiently, in the sense of being flushed, from the inner chamber of the container 6 and from the heating chamber 3."* (emphasis added).

At the outset, Applicant notes that in the passage cited by the Examiner, there is no reference to "a hot air heater" or more specifically "a hot air heater arranged to direct hot air flow onto the receptacle." This is a similar shortcoming as that discussed above with Guy. In addition, the apparatus of Lautenschlager heats the heating chamber 3 by a microwave-operated heating appliance 2. Abstract. Air or gas is merely added to the heating chamber 3 and there is no recitation of a "hot air heater," let alone a hot air heater "arranged to direct hot air flow." There is certainly nothing to suggest that the air or gas is directed onto a receptacle if it is merely being admitted into the heating chamber and subsequently flushed. There is also nothing to suggest from the passage cited by the Examiner that the air is even heated. Indeed, since the apparatus in Lautenschlager utilizes microwaves for heating, microwaves ordinarily cause heating through the rotational excitation of molecules which possess a dipole moment. While water, for instance, contains a dipole moment, air or the major constituents of air (N<sub>2</sub>, O<sub>2</sub> and Ar) do not and are therefore relatively invisible to microwave radiation.

In fact, it is more likely that the air or gas being admitted to the heating chamber 3 has nothing whatever to do with heating and is utilized either to flush vapours from the heating chamber 3 or to provide cooling of the holder 4 and the containers 6. Indeed, as expressly provided by the cited disclosure, the apparatus of Lautenschlager permits the admission of air or gas to the heating chamber 3 to improve the "[e]xtraction of the vapour...in the sense of being flushed." Col. 9, lines 31-42. Lautenschlager utilizes an

“aeration valve through which a gas or air may be sucked in” to provide a “sweeping action and improved removal of the vapours constituents....” col. 3, lines 59-62. Moreover, Lautenschlager, at Col. 11, lines 63-66, states that in “embodiments according to FIGS.1 to 5, external cooling of the holder 4 and the containers 6 is also effected by means of the gas or air stream traversing the heating chamber 3.” (emphasis added). Therefore, nothing in Lautenschlager suggests, expressly or impliedly, the feature of “a hot air heater arranged to direct hot air flow onto the receptacle” because the air or gas admitted to the heating chamber 3 is neither directed as hot air flow onto a receptacle nor does it have anything to do with heating.

For at least these reasons, the rejection of at least claim 1 for obviousness over any combination of GB ‘688, Lucas, Guy and Lautenschlager must be withdrawn. Since claims 2-4 and 6-28 depend from claim 1, either directly or indirectly, they must be found allowable for at least the same reasons as claim 1. However, in addition to the foregoing arguments, which alone demonstrate the error of the rejections, there are additional reasons to withdraw the instant rejections.

**B. It would be impossible for the ordinary artisan to combine GB ‘688 or Lucas with Guy or Lautenschlager and there is no rationale or sufficient basis for such a combination presented by the Examiner.**

To establish a *prima facie* case of obviousness based on a combination of elements disclosed in the prior art the Examiner must provide “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” M.P.E.P. § 2141(III). As stated above, the Examiner asserts that “[t]o incorporate the hot air heater of Lautenschlinger or Guy to the apparatus of GB 2 334 688 or Lucas, to arrive at the claimed invention, would have been obvious to one of ordinary skill in the art motivated by a reasonable expectation of success as defined at col. 3, lines 47-65 of the Lautenschlinger reference.” Applicant contends that even if the asserted reference combination provided every feature of at least claim 1, which Applicant strongly asserts it does not, the ordinary artisan would not make such a combination because: 1) it would be impossible to make such a combination since the proposed modification would change the principle operation of GB ‘688 or Lucas, and 2) the passage which allegedly provides a motivation to combine fails on



its face to support the Examiner's obviousness rationale. Accordingly, the Examiner's alleged combination of references fails to support a *prima facie* case of obviousness

First, under M.P.E.P. § 2143.01(VI), "[i]f the proposed modification or combination of the prior art would change the principle operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Here, such a combination or modification of references would be impossible because it deleteriously changes the principle operations of GB '688 or Lucas which require the maintenance of a vacuum.

As described in column 2, line 57 to column 3, line 2 of Lucas, and illustrated in Figure 1, the container of Lucas is heated by an electrical heating coil 18a (or optionally infrared emitter). There is, as the Examiner appreciates, no disclosure of a hot air heater providing air flow as part of the heating apparatus which directs hot air flow onto the container of Lucas. Indeed, since the whole of the interior of the vessel in which the container is held in Lucas is maintained in a vacuum, the use of a hot air heater providing air flow or the admission of any gas or air, as discussed above, would be impossible. Similar to Lucas, GB '688 also discloses an apparatus wherein the whole of the interior of the vacuum chamber in which the sample blocks of GB '688 are held and rotated in is maintained in a vacuum. As the Examiner appreciates, there is no disclosure of a hot air heater providing air flow in GB '688 as well. Like Lucas, since the vacuum chamber maintains a vacuum, the use of a hot air heater or the admission of any gas or air, as discussed above, would also be impossible.

As stated above, the disclosures of Lautenschlager and Guy at least disclose the administration of air or gas into an enclosure (Guy) or heating chamber (Lautenschlager). Thus, a combination of Guy or Lautenschlager with Lucas or GB '688 would be impossible since both of the apparatuses in Lucas and GB '688 require a vacuum for their operation. Indeed, Lucas states that the "centrifuging, gasevacuating [sic], and heating steps are all performed simultaneously and are continued until the concentration of the liquid has been increased a predetermined extent." Abstract (emphasis added).

Likewise, GB '688 explicitly teaches away from such a combination stating that "[n]o heat can be provided by conduction because the samples are held in a vacuum but microwaves or radiant heat...can be used..." Page 1, paragraph 4 (emphasis added). It would not be possible to *both* maintain the necessary vacuum around the container by use of a vacuum chamber as well as introducing or administering air or gas into the chamber.

Therefore, the reference combination cited by the Examiner would certainly change the principle operation of Lucas and GB '688 by intentionally preventing the maintenance of a vacuum. Such a combination is impossible. Accordingly, under M.P.E.P. § 2173.01(VI), the Examiner's *prima facie* case of obviousness based on such a combination must fail.

Second, the Examiner asserts that the ordinary artisan would be motivated to make the combination of GB '688 or Lucas with Lautenschlager or Guy because of reasonable expectation of success found at Col. 3, lines 47-65 of Lautenschlager:

“...device when the container has already been inserted into the holder. In the latter case, it is advantageous to combine an introduction of gas or air enabling extraction of the vapours with the supply for the reagent. Means may be provided, which allow gas or air to be introduced even when no reagent is to be supplied, because in many cases only a batch-wise supply of reagent is desired. Both are effected preferably through the lid of the container or through a part of the holder forming a lid for the container.

It is advantageous, in the case of extraction of the vaporous constituents in the container, to associate with the container or the heating chamber an aeration valve through which a gas or air may be sucked in. A sweeping action and improved removal of the vaporous constituents are thereby achieved. When an inert gas is used as an aerating or sweeping gas, explosion protection for flammable materials in the container may also be achieved.” (emphasis added).

Applicant respectfully disagrees with the Examiner that the cited passage provides a motivation that would motivate the ordinary artisan to combine the cited references and arrive at the invention of at least claim 1. Indeed, under M.P.E.P. § 2143(G) “[t]he rationale to support a conclusion that the claim would have been obvious is that a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success.” (emphasis added). “If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.” *Id.*

At the outset, Applicant notes that the Examiner has made no findings to support a rationale of obviousness. Under M.P.E.P. § 2143(G), since no “findings” have been made the obviousness rejection fails on its face. The Examiner has merely cited to a specific portion of Lautenschlager and stated that such a motivation is present therein. However, the passage cited by the Examiner provides no motivation to the ordinary artisan to combine the

cited references to achieve the claimed invention, let alone that there would be a reasonable expectation of success in such a combination. The cited passage refers to the introduction of gas or air to extract vaporous constituents of a heating chamber and completely neglects why a combination would be made to achieve the apparatus of claim 1 which pertains to “[a]n apparatus for concentrating solutions in a vaporising receptacle....” Indeed, the alleged rationale to combine provides no motivation to the ordinary artisan to combine an apparatus that requires vacuum maintenance (GB ‘688 and Lucas) with one that introduces gas or air (Lautenschlager and Guy) to arrive at the invention of claim 1. This is especially true since such a combination would effectively breach the vacuum required for GB ‘688 and Lucas. In fact, GB ‘688 expressly teaches away from the cited combination. Accordingly, since no “findings” have been made to establish a teaching, suggestion or motivation in the prior art, as asserted by the Examiner, the obviousness rejection fails on its face.

In light of the foregoing, since the Examiner has not provided a rational basis or sufficient reason for the combination of GB ‘688 or Lucas in view of Lautenschlager or Guy by a person having ordinary skill in the art, as required under M.P.E.P. § 2141(III), the rejection of at least claim 1 must be withdrawn. Accordingly, since claims 2-4 and 6-28 depend from claim 1, either directly or indirectly, they contain all the features of claim 1 and must be found allowable for at least the same reasons.

**CONCLUSION**

The amendments and remarks are believed to place the pending claims in condition for allowance. Therefore, Applicant respectfully requests that the rejections set forth in the September 8, 2011, Official Action be withdrawn and that this application be passed to issue.

If a fee is required or an overpayment is made, the Commissioner is authorized to charge or credit the deposit account of the undersigned, Account No. 04-1406.

Early and favorable action on the present application is earnestly solicited.

Respectfully submitted,

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